

LOWER CALIFORNIA: hills, 1882, *Pringle*; 1882, *Jones, Parry, Pringle* (TYPE of *Breweria minima*).

The writer is indebted to Mr. Rimo Bacigalupi for comparing the Californian material with the type of *Convolvulus pentapetaloides* in the Linnean collection at Burlington House, London.

GRAY HERBARIUM.

MEESEA TRIQUETRA¹

WILLIAM CAMPBELL STEERE

(Plate 205)

ABOUT twelve miles north of Ann Arbor lies a small post-glacial pond known as Mud Lake. The margins have long since been encroached upon by various aquatic plants, so that now only a very limited area of open water remains, which is completely surrounded by a floating mat of cat-tails and sedges. This zone is surrounded in turn by a dense swamp of tamaracks and spruces growing out of the wet, Sphagnum-covered floor. The general region is probably the richest in bryophytes of any in the immediate vicinity of the University of Michigan. Pennington (1) has published a detailed ecological description of this interesting area.

It was while wading about on the firmer parts of the undulating mat that the writer had the good fortune to run across a fine clump of *Meesea triquetra* (L.) Ångstr. (*Meesea tristicha* B. & S.) with mature sporophytes. This is the second locality in Michigan from which this uncommon species has been recorded, Nichols (2) having reported it from Cheboygan County. It is apparently a circumboreal species, since it has been reported from widely separated stations in Europe, Asia and the northern part of this continent.

Because of the unique and characteristic appearance of this beautiful moss, it is very easily recognized in the field and will hardly be confused with any other species, once it has been determined. Nevertheless, it is rather puzzling to one who has never seen the plant before, for although it is readily identified by the keys in the current manuals, most of the descriptions are so unsatisfactory that one does not feel secure until he has confirmed his determination by comparison with herbarium material.

¹ Paper from the Department of Botany, University of Michigan.

The salient features of the gametophyte are as follows: (1) The distant, strongly squarrose leaves are markedly three ranked, so that, when viewed from above, the tips of sterile plants resemble small three-pointed stars. Of our American manuals, only that of Jennings (3) makes use of this very important diagnostic character, which makes even sterile specimens easy to recognize, and from which the specific name is derived. (2) The serrate margins of the lanceolate, acute leaves further distinguish this from any other species.

The sporophyte is characterized by a very long seta (3–4 cm.) which bears a pear-shaped capsule inclined from an erect, swollen collum or neck. In southern Michigan the spores mature early in July.

The above macroscopic characteristics, together with the bog habitat, should serve to make *Meesea triquetra* easy to identify, even without the examination of the peristome required by most keys. The distinctive peristome characteristics are valuable, however, in confirmation of the determination; the 16 narrow segments of the inner peristome being two or three times as long as the 16 teeth of the outer.

The writer knows no figure which adequately illustrates the gametophyte, although an excellent idea of the general sporophytic characteristics is given by the plate of *Meesea tristicha* in *Bryologia Europaea* (4) which is reproduced by Grout (5). The peculiar features of the peristome are well figured by Limpricht (6).

The accompanying natural size photograph (PLATE 205) taken July 3, 1930, will therefore supplement previous illustrations and demonstrate some of the diagnostic points.

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LITERATURE CITED

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- (3) JENNINGS, O. E. 1913. A Manual of the Mosses of Western Pennsylvania. Published by the author, Pittsburgh, Penna.
- (4) SCHIMPER, W. 1836–1855. *Bryologia Europaea seu Genera Muscorum Europaeorum monographice illustrata auctoribus P. Bruch, W. Schimper et T. Gumbel*. Stuttgart.
- (5) GROUT, A. J. 1903. *Mosses with Hand-Lens and Microscope*. Published by the author, New York City.
- (6) LIMPRICHT, K. G. 1895–1904. *Die Laubmoose Deutschlands, Oesterreichs und der Schweiz*. Rabenhorst's Kryptogamen-Flora. Leipzig.